

$^{12}\text{C}(\text{P},\text{P}'\alpha)$ **1969Ep01**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu		NP A968, 71 (2017)	1-Jan-2017

1969Ep01: $^{12}\text{C}(\text{P},\text{p}\alpha)$ E=57 MeV, measured $\sigma(E_{\text{p}}, E_{\alpha})$. Deduced reaction mechanism. ^{12}C deduced levels, J, π , proton decay, T.

1970Go12: $^{12}\text{C}(\text{P},\text{P}'\alpha)$ E=160 MeV, measured $\sigma(E_{\text{p}'}, E_{\alpha}, \theta_{\text{p}'}, \theta_{\alpha})$.

1977Ro02: $^{12}\text{C}(\text{P},\text{p}\alpha)$ E=100 MeV, measured $\sigma(E_{\text{p}}, E_{\alpha}, \theta)$. ^{12}C deduced S $_{\alpha}$.

1978La11: $^{12}\text{C}(\text{P},\text{p}\alpha)$ E=600 MeV, measured p α -coin, momentum spectrum, σ .

1981De08: $^{12}\text{C}(\text{P},\text{P}'\alpha)$ E=44.2 MeV, measured $\sigma(\theta_{\text{p}'}, E_{\alpha})$, P' α -coin, $\sigma(\theta_{\text{p}'}, \theta_{\alpha})$. Deduced reaction mechanism. ^{12}C deduced isoscalar E2 resonance, EWSR strength. DWBA analysis.

1997Te14: $^{12}\text{C}(\text{P},\text{p}\alpha)$ E=156 MeV, measured E $_{\text{p}}$, I $_{\text{p}}$, $\sigma(\theta_{\text{p}})$. ^{12}C deduced small continuum nonresonant contribution.

1998Yo09: $^{12}\text{C}(\text{pol. p},\text{p}\alpha)$ E=296 MeV, measured $\sigma(\theta_{\text{p}}, \theta_{\alpha}, E_{\text{p}})$, A $_{\text{Y}}$. Deduced α spectroscopic factor.

1999Ha27: $^{12}\text{C}(\text{P},\text{P}'\alpha), (\text{P},\text{p}3\alpha)$ E=14,18,26 MeV, measured proton spectra, E $_{\alpha}$, $\sigma(E, \theta)$. Deduced role of three-body simultaneous breakup.

2009Co01: $^{12}\text{C}(\text{P},\text{p}\alpha)$ E=101 MeV, measured cross section and analyzing power.

2009Ma21: $^{12}\text{C}(\text{pol. p},\text{p}\alpha)^{8}\text{Be}$ E=100 MeV, measured particle spectra, (particle)(particle)-coin, σ , $\sigma(\theta)$, vector analyzing powers.

 ^{12}C Levels

E(level)	J $^{\pi}$
12.7×10^3	
14.1×10^3	
19.7×10^3 [†]	5
21.1×10^3 [†]	3
21.6×10^3	(2 $^{+}$)
22.2×10^3 [†]	5
24.1×10^3	(2 $^{+}$)
26.3×10^3 [†]	5
26.6×10^3	(2 $^{+}$)

[†] From (1969Ep01).